

# EUROPEAN PATENT OFFICE

## Patent Abstracts of Japan

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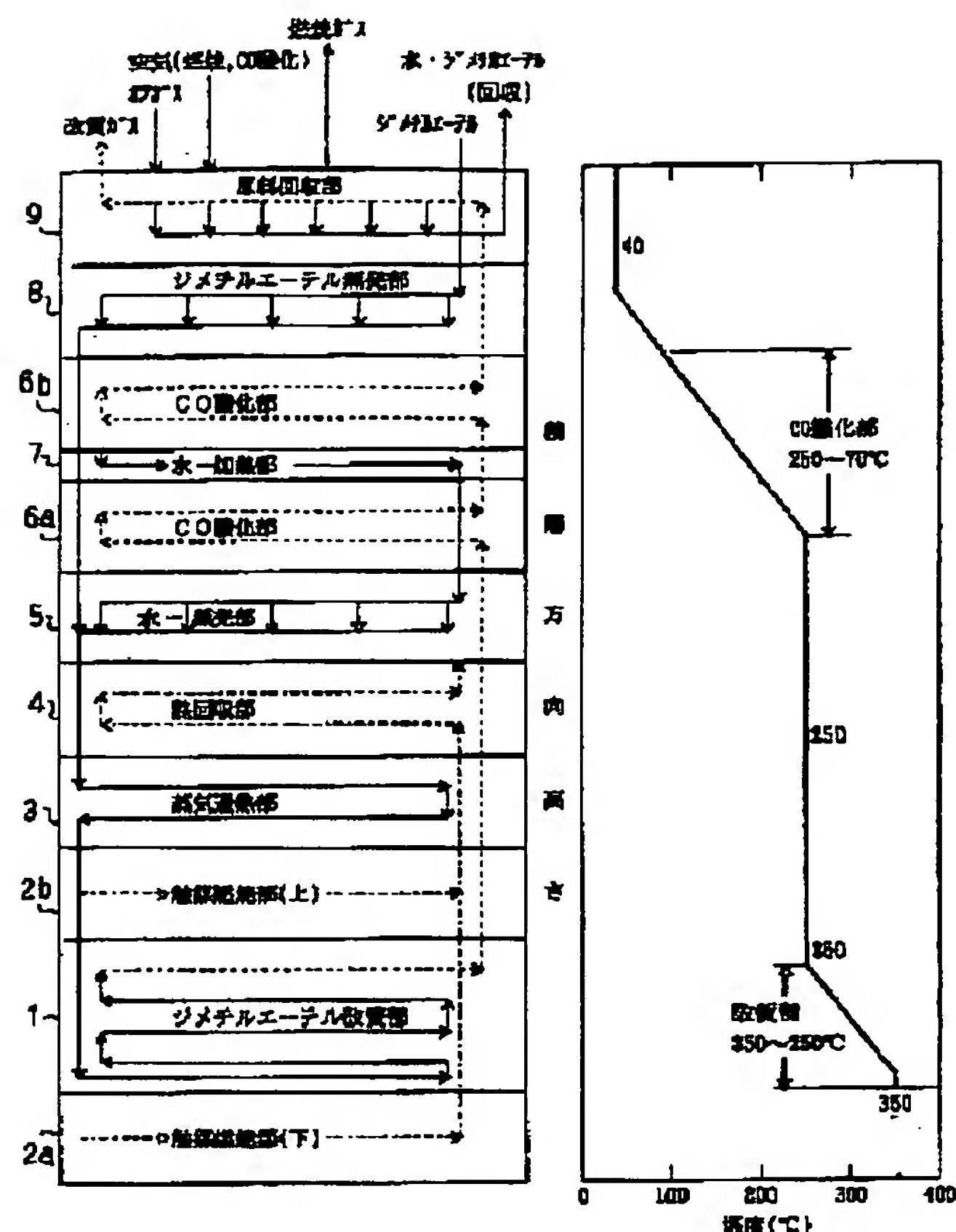
APPLICATION DATE : 13-02-98  
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INT.CL. : C01B 3/38 H01M 8/06

TITLE : DEVICE AND METHOD  
 FOREFORMING DIMETHYL ETHER  
 FUEL



**ABSTRACT :** PROBLEM TO BE SOLVED: To obtain a high reforming rate of dimethyl ether by effectively recovering an unreacted starting material to reduce fuel loss.

SOLUTION: In a dimethyl ether reforming device, a dimethyl ether evaporating part 8, a water heating part 7, a water-evaporating part 5, a steam superheating part 3 superheating a gaseous starting material to a reforming temp., a dimethyl ether reforming part 1 converting the superheated gaseous starting material to a reformed gas rich in hydrogen, catalytic burning parts 2a and 2b supplying the heat of reforming reaction to the reforming part 1, carbon monoxide oxidizing parts 6a and 6b reducing carbon monoxide in the reformed gas by catalytic oxidation, a heat recovering part 4 used for the heat source of the steam superheating part 3 and the water-evaporating part 5, a starting material recovering part 9 recovering the unreacted starting material are provided and the starting material recovering part 9 is provided in the vicinity of the dimethyl ether evaporating part 8.

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